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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/807,050

03/22/2004

Chih-Neng Hsu

4102

25859

7590

02/17/2006

WEI TE CHUNG  
FOXCONN INTERNATIONAL, INC.  
1650 MEMOREX DRIVE  
SANTA CLARA, CA 95050

EXAMINER

WRIGHT, INGRID D

ART UNIT

PAPER NUMBER

2835

DATE MAILED: 02/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/807,050

Applicant(s)

HSU ET AL.

Examiner

Ingrid Wright

Art Unit

2835

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/6/06</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawing Objections***

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to show conducting tracks as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

2. Claim 2,3,8,13,14 &19 respectively, is objected to because there seems to be a typo. Claims 2,3,8,13,14 & 19 recites: "electronical panel." Should the limitation read: "electrical panel?"

Claim 2 is also objected to because there seems to be a typo, as claim 2 recites: "contactes."

Claim 10 is also objected to because there seems to be a typo, as Claim 10 recites: "flexible printed circuit board is coupled to the printed circuit board." Should claim 10 recite: "flexible printed circuit board is coupled to the electrical panel?"

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2,9,11,12,13 are rejected under 35 U.S.C. 102(b) as being anticipated by Higdon et al. US 6148183.

With respect to claim 1, Higdon et al. teaches (see, fig 2) a housing (102) of an electronic device comprising: a side wall (274); and a side key assembly (122), which engaged with the side wall (274), and comprising: a key portion (206); a flexible panel (210), having domes formed thereon and corresponding to the key portion (206); and a flexible printed circuit board (257), having conducting tracks (see, col. 4, lines 9-24) formed thereon; wherein the flexible panel (210) is arranged between the key portion (206) and the flexible printed circuit board (257) and each dome (208) corresponds to a end of each conducting track (263) such that when the key portion (206 ) is depressed, it exerts a force and presses the flexible panel (210), and in responsive this pressure, one of the domes (208) deformed on the flexible panel (210) has a distortion and depresses to the flexible printed circuit board (257) to actuate the conducting tracks (263 ) on the flexible printed circuit board (257).

With respect claim 2, as best understood, Higdon et al. teaches (see, fig. 2) an electrical

Art Unit: 2835

panel (210), which electrical contacts with the conducting tracks (263) (see, col. 4, lines1-24) formed on the flexible printed circuit board (257).

With respect to claim 9, Higdon et al. teaches (see, fig. 2) a printed circuit board (257), which is built in the housing (102), which electrically contacts with the conducting tracks (263) formed on the flexible printed circuit board (257).

With respect to claim 11, Higdon et al. teaches (see, fig. 2) a side key assembly (122) for a housing (102) of an electronic device, comprising: a key portion (206); a flexible panel (210), having domes (208) formed thereon and corresponding to the key portion (206); and a flexible printed circuit board (257), having conducting tracks (263) formed thereon; wherein the flexible panel (210) is arranged between the key portion (206) and the flexible printed circuit board (257) and each dome corresponds to a end of each conducting track (263) such that when the key portion (206) is depressed, it exerts a force and presses the flexible panel (210), and in responsive this pressure, one of the domes (208) deformed on the flexible panel (210) has a distortion and depresses to the flexible printed circuit board (257) to actuate the conducting tracks (263) on the flexible printed circuit board (257).

With respect to claim 12, Higdon et al. teaches (see, fig. 2) the housing (102), which further comprise a side wall (274), the side key assembly (122) engages with the side wall (274).

With respect to claim 13, Higdon et al. teaches (see, fig. 2) a side key assembly (122), which further comprises an electronical panel (210), which electrically contacts with the conducting tracks (263) formed on the flexible printed circuit board (257).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject

Art Unit: 2835

matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-8, 10 & 14-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higdon et al. US 6148183 in view of Stopperan US 5428190.

With respect to claim 3, in regards to all the limitations of claims 1 & 2 above, Higdon et al. teaches the flexible printed circuit board (257) couples with the electrical panel (210).

Higdon et al. lacks the flexible printed circuit board (257) coupled with the electrical panel (210) by means of hot pressure.

Stopperan teaches a flexible printed circuit board (75) coupled with an electrical panel (100) by means of hot pressure (adhesive) (see, col. 4, lines 66-68 & col. 5, lines 1-9 of Stopperan).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize hot pressure as taught by Stopperan in the invention of Higdon et al., in order to provide a means of making an electrical connection between an electrical panel and a circuit board which is able to tolerate soldering (see, col. 4, lines 46-68 & col. 5, lines 1-9 of Stopperan).

With respect to claim 4, Higdon et al. teaches the key portion (206), which comprises a body portion (not labeled), a user interface (not labeled) extending from the body portion (not labeled) and an contact portion extending from one inner side of the user interface (not labeled).

With respect to claim 5, Higdon et al. teaches the side wall (274), which further comprises a plurality of stop walls (not labeled & shown on fig. 2), and a receiving space (not labeled) formed therebetween.

With respect to claim 6, Higdon et al. teaches a stop wall (not labeled & shown on fig. 2), which is in a "L" shape, and includes a long arm (not labeled) and a short arm (not labeled), the

Art Unit: 2835

long arm (not labeled) is parallel to the side wall (274), and the short arm (not labeled) extends from a bottom wall of the housing (102) and near to the side wall (274).

With respect to claim 7, Higdon et al. teaches the side wall (274) that has a recess (not labeled) which responding to a stop wall (not labeled) and a width of the recess (not labeled) which responds with the stop wall (not labeled), and a width of the recess (not labeled) is shorter than a distance of the two short arms (not labeled).

With respect to claim 8, as best understood, Higdon et al. teaches the key portion (206), the flexible panel (210) and the electronical panel, which are placed in the receiving space (not labeled), the side wall (274) blocks the body portion (not labeled) of the key portion (206) and the user interface (not labeled) extends out the recess (not labeled).

With respect to claim 10, as best understood, in regards to all the limitations of claim 1 & 9 above, Higdon et al. teaches the flexible printed circuit board (257), which is coupled to the printed circuit board (210).

Higdon lacks by means of hot pressure.

Stopperan teaches a flexible printed circuit board (75) coupled with an electrical panel (100) by means of hot pressure (see, col. 4, lines 66-68 & col. 5, lines 1-9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize hot pressure as taught by Stopperan in the invention of Higdon et al., in order to provide a means of making an electrical connection between an electrical panel and a circuit board which is able to tolerate soldering (see col. 4, lines 46-68 & col. 5, lines 1-9 of Stopperan).

With respect to claim 14, as best understood, in regards to all the limitations of claims 11-13 above, Higdon et al. teaches the flexible printed circuit board (257), which couples with the electronical panel (210).

Higdon et al. lacks by means of hot pressure.

Stopperan teaches a flexible printed circuit board (75) coupled with the electrical panel (100) by means of hot pressure (see, col. 4, lines 66-68 & col. 5, lines 1-9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize hot pressure as taught by Stopperan in the invention of Higdon et al., in order to provide a means of making an electrical connection between an electrical panel and a circuit board which is able to tolerate soldering (see col. 4, lines 46-68 & col. 5, lines 1-9 of Stopperan).

With respect to claim 15, Higdon et al. teaches the key portion (206), which comprises a body portion (not labeled), a user interface (not labeled) extending from the body portion (not labeled), and a contact portion (not labeled) extending from one inner side of the user interface (not labeled).

With respect to claim 16, Higdon et al. teaches the side wall (274), which further comprises a plurality of stop walls (not labeled), and a receiving space (not labeled) formed therebetween.

With respect to claim 17, Higdon et al. teaches a stop wall, which is in a "L" shape, and comprises a long arm (not labeled) and a short arm (not labeled), the long arm (not labeled) is parallel to the side wall (274), and the short arm (not labeled) extends from a bottom wall of the housing (102) and near to the side wall (274).

With respect to claim 18, Higdon et al. teaches the side wall (274), which has a recess which responds with the stop wall, and a width of the recess is shorter than a distance of the two short arms.

With respect 19, as best understood, Higdon et al. teaches the key portion (206), the flexible panel (210) and the electronical panel (210), which are placed in the receiving space (not labeled), the side wall blocks the body portion of the key portion (206) and the user interface extends out the recess.

With respect claim 20, Higdon et al. teaches a printed circuit board (257), which is built in the



Art Unit: 2835

housing (102), which electric contacts with the conducting tracks (263) formed on the flexible printed circuit board (257).

With respect to claim 21, Stopperan teaches the flexible printed circuit board (75), which is coupled to a printed circuit board (100) by means of hot pressure.

With respect to claim 22, Higdon et al. teaches a side wall (274), and a side key assembly (122), which engages with the (274), and comprising: a key portion (206); a flexible panel (210), which substantially abutting against the key portion (206); and a flexible printed circuit board (257), having conducting tracks (263) formed thereon; wherein the flexible panel (210) is arranged between the key portion (206) and the flexible printed circuit board (257) such that when the key portion (206) is depressed, it exerts a force and presses the flexible panel (210), and in response this pressure, the flexible panel (210), which has a distortion and depresses to the flexible printed circuit board (257) to actuate the conducting tracks (263) on the flexible printed circuit board (257).

With respect to claim 23, Higdon et al. teaches a flexible panel, which is metallic, and said flexible printed circuit board (257) is further connected to an electrical panel (210) which is engaged with said metallic flexible panel (210) (see, col. 3, lines 36-42).

### ***Conclusion***

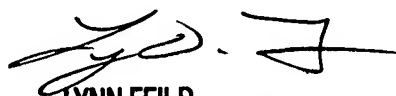
5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Shepard et al. US 6980777 B2 shows the general state of the art regarding electronic devices with side key assembly configurations.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ingrid Wright whose telephone number is (571)272-8392. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached on (571)272-2800, ext 35. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

IDW



LYNN FEILD  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800